

Abstract of the Disclosure:

The resolution and the signal-to-noise ration of known force sensors as e.g. capacitive force sensors decrease when scaling them down. To solve this problem there is a solution presented by the usage of a nanostructure as e.g. a carbon nanotube, which is mechanically deformed by a force to be measured. The proposed force sensors comprises a support with two arms carrying the carbon nanotube. The main advantage of this nanoscale force sensor is a very high sensitivity as the conductance of carbon nanotubes changes several orders of magnitude when a mechanical deformation arises.